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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/519,354

09/22/2005

Adalbert Huber

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EXAMINER

WEDDLE, ALEXANDER MARION

ART UNIT

PAPER NUMBER

4172

MAIL DATE

DELIVERY MODE

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/519,354	<b>Applicant(s)</b> HUBER, ADALBERT	
	<b>Examiner</b> ALEXANDER WEDDLE	<b>Art Unit</b> 4172	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 28 December 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>12/28/2004</u> .  | 6) <input type="checkbox"/> Other: _____                          |



### **DETAILED ACTION**

1. Claims 1-11 are pending and are ready for examination on the merits.

#### ***Information Disclosure Statement***

1. The information disclosure statement filed 12/28/04 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered.

#### ***Claim Rejections - 35 USC § 112***

##### ***Second Paragraph***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Applicant's use of "and/ or" in claim 1 renders the claim and the claims which depend from it insufficiently vague, since the reasonable person cannot determine the metes and bounds of the claim, i.e. whether it recites a use of curing, a use of drying, a use of increasing thermal conductivity, or a combination of one or all the above uses. Moreover, Claim 2 is not clear and thus render the claim indefinite because neither the claim nor the specification defines the phrase "built up homogeneously" in a manner which would be understood by one of ordinary skill in the

art. For instance, homogeneous in weight percent of each component? Or volume?  
Or ???. Please clarify or make a proper correction.

4. Claims 1-9 provide for the use of pale or transparent particulate semiconductor materials or particulate substrates coated with [such materials], but, since the claims do not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced. For examination purpose, the examiner would interpret the claims as following. Claim 1: A method of curing and/or drying and/or increasing the thermal conductivity of surface-coating layers and printing inks comprising coating pale or transparent particulate semiconductor materials or particulate substrates with pale or transparent semiconductor materials.

Claims 1-9 are rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd. v. Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

### ***Claim Rejections - 35 USC § 102***

#### ***102(b) Rejections***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Aikens et al. (US 6,416,818).

Aikens teaches the use of metal or metal oxide nanocrystalline particles, such as indium-tin oxide (ITO) in forming a transparent conductive coating. Aikens teaches in Example 1 the use of doped indium oxide as the semiconductor material (col. 4, lines 57-65). The nanocrystalline particles are spherical (Aiken, Claim 18 (a)).

Regarding claim 7, Aikens ('818) teaches that doped SiO<sub>2</sub>, TiO<sub>2</sub> and mica are used as substrates in static dissipative applications. Examiner takes official notice based on common knowledge that for metals there is a direct relationship between electrical and thermal conductivity. Based on this official notice, the apparent limitation of claim 1 that the electrically conductive materials can be used "for increasing the thermal conductivity of surface-coating" is implied and anticipated by Aikens.

Regarding claim 2, Aikens ('818) describes flakes of electrically conductive materials deposited on a substrate by various techniques (col. 4, lines 3-55). Furthermore, Applicant admits that "[T]he coating of the particulate substrates with the semiconductor materials is either known or can be carried out by processes known to the person skilled in the art." (Specification, p. 3, lines 10-16).

Regarding claim 4, if Applicant intends that claim 4 further limit claim 1 by requiring that prior art semiconductor materials be formed in a particular manner, namely "oxidically or sulfidically," claim 4 is rejected because the materials are found in the prior art and the method in which such semiconductor materials are made is

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irrelevant to the use claim (Aikens, Claims 19 and 31 ). If Applicant intends that claim 4 narrow the types of semiconductor materials to oxides and sulfides, claim 4 is rejected on the same ground as claim 5; such oxides and sulfides exist in the prior art and are used in the manner recited in claims 1-6 (col. 3, lines 21-41).

### ***102(e) Rejections***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claims 1-6, 8, and 10-11 are rejected under 35 U.S.C. 102(e) as being anticipated by Faris (US PG-PUB 2005/0236603).

Faris ('603) teaches using flakes of electrically conductive materials, including indium oxide, zinc oxide, doped zinc oxide, and doped tin oxide as inks and surface-coating layers (pars. 0026-0027). Examiner takes official notice based on common knowledge that for metals there is a direct relationship between electrical and thermal conductivity. Based on this official notice, the apparent limitation of claim 1 that the electrically conductive materials can be used "for increasing the thermal conductivity of surface-coating" is anticipated by Faris. Furthermore, use of the materials for drying is anticipated by Faris (par. 0034).

Regarding claim 2, Faris ('603) describes flakes of electrically conductive materials deposited on a substrate by various techniques (pars. 0029 - 0031).

Furthermore, Applicant admits that "[T]he coating of the particulate substrates with the semiconductor materials is either known or can be carried out by processes known to the person skilled in the art." (Specification, p. 3, lines 10-16).

Regarding claim 4, if Applicant intends that claim 4 further limit claim 1 by requiring that prior art semiconductor materials be formed in a particular manner, namely "oxidically or sulfidically," claim 4 is rejected because the materials are found in the prior art and the method in which such semiconductor materials are made is irrelevant to the use claim (Faris, pars. 0026-0027). If Applicant intends that claim 4 narrow the types of semiconductor materials to oxides and sulfides, claim 4 is rejected on the same ground as claim 5; such oxides and sulfides exist in the prior art and are used in the manner recited in claims 1-5 (Faris, pars. 0026-0027).

### ***Conclusion***

9. No claim is allowed.

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kawata et al. (US 5,662,962), Shibuta (US 6,184,280), Tamai (US PG PUB 2008/0026204), Ootsuka et al. (US PG PUB 2004/0241421), Liu et al. (US PG PUB 2003/0099816), Hattori (US 7,128,966)..

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALEXANDER WEDDLE whose telephone number is



(571) 270-5346. The examiner can normally be reached on Monday-Thursday, 7:30 AM - 5:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vickie Kim can be reached on (571) 272-0579. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/A. W./  
Examiner, Art Unit 4172

/Vickie Kim/  
Supervisory Patent Examiner, Art Unit 4172